

Name: \_\_\_\_\_

**p1105: Factoring when  $a = 1$  (v7)**

**Example:** Factor  $x^2 + 5x - 24$

Find two numbers whose product is  $-24$  and whose sum is  $5$ . Focus on finding factor pairs of  $-24$ . Eventually you consider  $8$  and  $-3$  because  $(8)(-3) = -24$ . You verify this pair is correct because  $(8) + (-3) = 5$ . Thus, your answer:

$$(x + 8)(x - 3)$$

1. Factor  $x^2 + 13x + 42$

2. Factor  $x^2 + 3x - 18$

3. Factor  $x^2 + 2x - 24$

4. Factor  $x^2 - 4x - 32$

5. Factor  $x^2 - 4x - 45$

6. Factor  $x^2 + 14x + 45$

7. Factor  $x^2 - 3x - 10$

8. Factor  $x^2 + 9x + 14$

9. Factor  $x^2 + 16x + 63$

10. Factor  $x^2 - 8x + 7$

11. Factor  $x^2 - x - 72$

12. Factor  $x^2 + 14x + 48$

13. Factor  $x^2 + 3x - 10$

14. Factor  $x^2 + 6x - 16$

15. Factor  $x^2 - 8x + 12$